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7/11/1934

# INSECT PEST SURVEY BULLETIN

Vol. 14

July 1, 1934

No. 5

## THE MORE IMPORTANT RECORDS FOR JUNE 1934

The dry weather that prevailed during late May and well through June aggravated the grasshopper situation. In general the sections of heavy emergence coincided with those indicated by surveys conducted last fall in certain States. No surveys were made in Wisconsin and Michigan and there the situation is much worse than was anticipated. Over 76,000 tons of poisoned bait purchased under a special appropriation has been allotted to the States, most of it going to generally infested territory.

During June the intensity of chinch bug damage increased greatly, the bugs leaving the small grains and in certain sections damaging corn before barrier materials became available. The unusual weather conditions caused the bugs to mature to the adult stage earlier than usual. In the cooperative campaign for chinch bug control carried on under special appropriation more than 1,250,000 gallons of creosote was allotted to Illinois, over 2,000,000 gallons to Iowa, and almost 2,000,000 gallons to Missouri. Lesser amounts were allotted to other States in the infested area. In some States the allotments from the special appropriation were augmented by purchases made with funds supplied by FERA.

Outbreaks of the mormon cricket in Montana and Idaho were larger and did more damage than was anticipated.

The rose chafer is reported as more seriously abundant than it has been for many years in the New England and Middle Atlantic States, the infestations extending westward into Michigan and Indiana.

Flea beetles, attacking corn principally, have been very destructive this year in Indiana, Illinois, Michigan, and Wisconsin.

The plum curculio emerged so late that little damage is anticipated from the second brood, with the possible exception of injury to Elberta peaches in the Fort Valley district of Georgia.

Heavy damage by the beet leafhopper is reported from the Twin Falls district in Idaho and the Sevier Valley in Utah.

The fall canker worm is reported as unusually abundant in the eastern part of New England and in New York.

The spring canker worm is reported as abundant from New York westward through Ohio and Michigan to Nebraska.

The elm leaf beetle is now well distributed over the Boise and Payette Valleys of Idaho, and is seriously defoliating shade trees.

Losses of cattle from attack by the screw worm are being reported from Florida and Georgia, indicating the possibility of a repetition of last year's serious outbreak of this pest.

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## OUTSTANDING ENTOMOLOGICAL FEATURES IN CANADA TO JUNE 25, 1934

The grasshopper outbreak continues to be of outstanding importance throughout the grain-growing areas of the three Prairie Provinces. Hatching of the major species began at the end of April in Alberta and early in May in Manitoba and Saskatchewan, being from 2 weeks to 1 month earlier than in 1933. Late in May and early in June hatching was general and almost complete in many sections, and crops were damaged severely over wide areas. Unseasonably hot weather and retarded crop growth, due to lack of moisture, greatly increased the extent of the damage. In southeastern Saskatchewan important grasshopper migrations started, owing to lack of food in the infested fields. General rains and cooler weather during the first half of June caused further germination of seed, better crop growth, and lessened activity of the insects, and control campaign efforts were much more effective under these conditions. In Saskatchewan it is generally accepted that in much of the area of very severe infestation, where the soils are light or medium, there would have been little or no crop survival after the drought had it not been for the control campaign.

The pale western cutworm began hatching early in the infested areas of Saskatchewan and Alberta (by April 20 in southern Alberta), and by the middle of May the infestation was general and damage had started. The damage to crops by this species during May was excessive. The insects were checked, however, by rains and cool weather in June. In Manitoba, relatively little cutworm damage has been noted. In Eastern Canada local cutworm damage, unusually severe in some sections, was reported in New Brunswick, southern Quebec, and Ontario.

Some losses from wireworms have occurred in certain localities in southern Alberta. In Saskatchewan wireworms have done considerable general damage to crops on summer-fallow, especially in medium soils. Seasonal conditions have been generally conducive to severe injury by these insects.

Moderate flights of May or June beetles were noted in southern Quebec, eastern Ontario, and locally in southern Ontario during May. The beetles caused some damage to the foliage of shade trees, raspberry, roses, and other plants. White grubs are distinctly reduced in numbers in eastern Ontario, as compared with last year, but they are sufficiently abundant to indicate an exceptionally large flight of beetles for 1935, 40 or more grubs per square yard of sod being common.

Extensive flights of beet webworm moths occurred in various localities in the Prairie Provinces during May. In Saskatchewan they were generally present throughout at least the central and southern parts of the province.

The hop flea beetle is somewhat more abundant than average in localities in southern Alberta, attacking radishes, rhubarb, and sugar beets, and is numerous in the Lower Fraser valley, British Columbia, causing local damage to hops. Crop damage by the potato flea beetle is severe in sections of Ontario, and the cabbage flea beetle is troublesome on Vancouver Island.

The cabbage maggot is a serious pest on untreated plants in southwestern Ontario. Eggs were noted in southern Quebec as more numerous than in 1933. Seed corn maggots have damaged truck crops on Vancouver Island.

Orchards in the Annapolis Valley, Nova Scotia, appear to be unusually free from insect pests. In the Okanagan Valley, British Columbia, certain fruit pests are more prevalent than usual. Overwintering conditions in the Okanagan were very favorable for hibernating insects.

The winter mortality of the codling moth in several localities in southern Ontario varied approximately from 9 to 52 percent. Adult moths began to emerge at the usual period in relation to the blooming of the trees. Trouble from this species is expected in apple-growing districts of British Columbia.

Aphids are remarkably scarce in Nova Scotian orchards, as a result of unusual autumn weather followed by a severe winter.

In southern counties of Ontario, where San Jose scale occurs, the winter mortality was found to range approximately from 55 to 89 percent. The minimum winter temperatures recorded in the localities studied ranged from 14 to 25 degrees below zero.

Bait-pail records show that adults of the oriental fruit moth survived the cold winter throughout the Niagara district, Ontario. The cold, backward spring, however, retarded the development of the species.

An outbreak of grape leaf hoppers is again present in the Niagara district.

The eye-spotted budmoth and Bruce's measuring worm are more abundant than for several years in the Okanagan Valley, British Columbia.

Near Fredericton, New Brunswick, infestations of the balsam woolly aphid have been satisfactorily checked by the winterkilling larvae above the snow line. Survival was good, however, under the snow.

A careful study of the European pine shoot moth in southern Ontario revealed a mortality of 95 percent or more during the past unusually severe winter.

Definite increase of tent caterpillars is reported in parts of New Brunswick, Nova Scotia, southern Quebec, and Ontario, the tents of these insects being conspicuous in many localities. Tent caterpillars also show an increase in sections of British Columbia where they have been rather scarce for several years. Local damage by tent caterpillars is reported from the Prairie Provinces.

Scouting for the brown-tail moth in the Maritime Provinces revealed only four webs near St. Stephen, New Brunswick, and in these the larvae were dead. No traces of the insect were found in Nova Scotia.

In Ontario and Quebec, and probably elsewhere in eastern Canada, mosquitoes are more troublesome than for several years, owing to the heavy winter snowfall. Blackflies also are exceptionally numerous in various localities.

The rhododendron white fly (Dialeurodes chittendeni Laing.) was found for the first time in Canada this spring, infesting nurseries in the vicinity of Vancouver and Victoria, British Columbia. Efforts are being made to eradicate this pest.



## GENERAL FEEDERS

## GRASSHOPPERS (Acrididae)

- Michigan. R. Hutson (June 12): Grasshoppers are hatching in large numbers in 29 counties of the infested area, which comprises the upper peninsula and the upper third of the lower peninsula. Some of them have reached the second instar and poisoning is in progress.
- Wisconsin. E. L. Chambers (June 25): Probably the most serious epidemic of grasshoppers ever experienced in Wisconsin appeared this season, certainly the worst in the memory of the oldest residents. Thirty-five counties in the northern half of the State received both State and Federal aid in addition to large sums spent by the counties themselves so long as their credit lasted. Arsenic sufficient to make up 9,500 tons of the poison, including 2,000 tons of ready-mixed bran furnished by the Government, was distributed.
- Minnesota. A. G. Ruggles (June 26): Grasshoppers are very abundant in 40 counties. Farmers are frantically calling for poison bait. The infestation is much worse than was expected.
- North Dakota. J. A. Munro (June 14): Hatching of the various economic species has continued up to the present. According to F. D. Fitcher, Camnula pellucida Scud. is very abundant in the northern part of the State, while Melanoplus mexicanus Sauss. and M. bivittatus Say are generally distributed. The recent rainfall over the hopper-infested area has been followed by heavy hatching.
- Iowa. C. J. Drake (June 25): The grasshopper infestation in western Iowa extends along the Missouri River from Sioux, Plymouth, and Crawford Counties to Taylor, Fremont, and Page Counties, a total of 16 counties. Over 250 tons of poisoned bait have been used in these counties.
- Nebraska. M. H. Swenk (June 20): The grasshopper situation developed with unexpected severity during the second half of May and the early part of June. The heaviest early infestations were in the northeastern corner of the State. As the month advanced serious outbreaks developed across the central part of the State to the southwestern corner and northward into the panhandle. A total of 1,280 tons of bait furnished by the Federal Government has been distributed.
- Kansas. H. R. Bryson (June 26): Grasshoppers are very abundant in some sections of the State, but about as abundant as usual at Manhattan. Reports of infestations have been received from Peru.
- Texas. E. W. Laake (June 23): Grasshoppers are very abundant in Dallas County.

Montana. A. L. Strand (May 29): The grasshopper campaign is well under way. Hatching of the eggs began at least a month earlier than in 1933. The infestation is developing very much in accordance with the survey. M. bivittatus has hatched almost completely and some are nearly full grown. The lesser migratory grasshopper (M. mexicanus) has been slower in hatching but probably 80 percent of the eggs are now hatched.

Idaho. C. Wakeland (June 19): Grasshopper control has been progressing very satisfactorily and to date the State has shipped in 670 tons of Federal poisoned bait. Nearly all damage has been prevented, but hoppers have reached the migrating stage in some areas and considerable difficulty is being experienced in protecting cultivated lands along the margins of desert areas.

Arizona. C. D. Lebert (June 25): Winged adults of our early hatched grasshoppers are practically exterminated in all fields where the poison was used. Late hatching of M. mexicanus has been noticed in two fields to date. It is too early to determine to what extent this late hatch may develop.

Oregon. D. C. Mote (May 28): A Federal grasshopper control campaign is being undertaken in Klamath, Lake, Harney, Creek, Deschutes, and Grant Counties. C. pellucida is the most abundant species involved.

California. E. O. Essig (June 24): Grasshoppers are abundant in a few scattered localities.

#### MORMON CRICKET (Anabrus simplex Hald.)

Montana. A. L. Strand (May 29): The outbreak in southern Montana is far more serious than was expected, but in general conforms to the egg survey made last summer. Crickets are also appearing in several northern counties. In some of these there are probably not enough crickets to do much damage this year.

Idaho. C. Wakeland (June 19): Mormon crickets are a month earlier than usual, most of the eggs having already been deposited. A few instances of severe injury were encountered this year in the upper Snake River Valley, the first real damage we have observed in the 3-year fight we have had with them.

#### VARIEGATED CUTWORM (Lycophotia margaritosa saucia Hbn.)

Oregon. D. C. Mote (May 28): Cutworms were found injuring hops on May 21 near Independence and Dayton. In certain areas every hill contained from 1 to 20 worms and had two thirds of the shoots cut off.

#### ARMYWORM (Cirphis unipuncta Haw.)

Indiana. J. J. Davis (June 22): Moths have been abundant and there is every likelihood of outbreaks in the near future.

Illinois. W. P. Flint (June 23): There have been several slight-to-moderate outbreaks.

Wisconsin. E. L. Chambers (June 25): Armyworms are originating usually in swamp lands in marsh hay and are moving out and destroying thousands of acres of valuable crops before being brought under control in one of the worst epidemics this State has ever experienced. State aid in supplying poison and assistance in directing the control measures has already been given to more than dozen counties.

C. L. Fluke (June 21): Armyworms are very numerous on 1,000 acres of marsh grass in Manitowoc County; and on corn in Washburn and Dodge Counties.

Minnesota. A. G. Ruggles (June 26): Cirphis unipuncta Haw. is very bad in Houston, Freeborn, Waseca, Otter Tail, and Mille Lacs Counties.

Iowa. C. J. Drake (June 25): Armyworms have done considerable damage locally to rye and wheat in Hamilton, Webster, Story, and two or three other counties. Most of the worms are apparently free from parasites.

H. E. Jaques (June): The armyworm has been reported from Osceola, Pocahontas, Tama, and Poweshiek Counties.

#### WHITE GRUBS (Phyllophaga spp.)

New Hampshire. L. C. Glover (June 25): There is severe damage to white pine seedlings in Merrimack County.

Maryland. J. A. Hyslop (May 23): A heavy flight of June beetles (P. knochi Gyll.) was observed on May 23 at Avenel. (Det. by E. A. Chapin)

Michigan. E. I. McDaniel (June 14): June bugs are abundant throughout central and southern Michigan and the foliage has been practically removed from walnut, oak, and hickory. P. hirticula Knoch is the predominating species.

Minnesota. A. G. Ruggles (June 26): White grubs are very abundant in a number of counties.

Iowa. C. J. Drake (June 25): Some injury is showing up in a large number of counties in western Iowa. A considerable percentage of the overwintering grubs are still in their hibernating cells many inches beneath the surface of the soil.

Nebraska. M. H. Swenk (June 20): White grubs are reported as extensively destroying the roots of Black Hill spruce trees in York County on June 8.

#### A WIREWORM (Heteroderes laurentii Guer.)

Alabama. K. L. Cockerham (May 16): Baldwin County has started moving its 9,000-acre potato crop. Wireworm injury is more serious than for the past several years. It is estimated that 50 percent of the cars are graded under No. 1 because of damage. On some farms from 20 to 30 percent of the potatoes are injured.



PLAINS FALSE WIREWORM (Eleodes opaca Say).

Nebraska. M. H. Swenk (June 20): Adults were reported as very abundant in Chase and Box Butte Counties on June 8 and 12, respectively. The Box Butte County correspondent stated that they were so abundant at night on the road about 4 miles west of Alliance that a truckload of them could have been shoveled up in a mile.

ASIATIC GARDEN-BEETLE (Autoserica castanea Arrow)

New York. H. C. Hallock (June 23): Larvae have been found in gardens that were cultivated last year. They are destroying beets, carrots, corn, squash, lettuce, and asters. It was necessary to replant at Larchmont, Oyster Bay, Locust Valley, Port Washington, and Great Neck.

JAPANESE BEETLE (Popillia japonica Newm.)

New Jersey. C. H. Hadley (June 12): The Japanese beetle season has started. General field emergence of the adults from the ground started at Moorestown on June 11. On that day a number of beetles were found in the field.

ROSE CHAFER (Macrodactylus subspinosus Fab.)

Maine. H. B. Peirson (June 20): The rose chafer is abundant at Augusta and is feeding on elms at Saco.

Connecticut. M. P. Zappe (June 14): Adults are unusually numerous and destructive to plum, grape, and apple foliage and fruit in the eastern part of the State and to corn at New London.

New York. N. Y. State Coll. Agr. News Letter (June ): The rose chafer appeared the first week in the month in the Hudson River Valley and did considerable damage during the second week of the month in this region and in Niagara County.

New York. P. J. Parrot (June 25): M. subspinosus is very abundant in some places in the western part of the State.

New Jersey. I. M. Hawley (June 11): The rose chafer is numerous, beetles are entirely destroying roses in ornamental gardens.

Maryland. E. N. Cory (June 21): There is a heavy infestation at Cambridge.

Indiana. J. J. Davis (June 22): The rose chafer was reported on June 2 as damaging peaches at Goshen.

Michigan. E. I. McDaniel (June 14): The first rose chafers in the vicinity of Lansing appeared about June 12. They were feeding on apples in a large orchard. In other years they have been very destructive to peonies and roses.

Ray Hutson (June 22): The rose chafer is causing some damage to corn at Okemos, and is attacking fruit trees at Williamsburg.

Wisconsin. E. L. Chambers (June 25): Rose chafers are appearing in destructive numbers in Monroe, Jackson, and Waushara Counties, where they are injuring flowers, garden crops, and field corn over large areas of light sandy soil.

COMMON RED SPIDER (Tetranychus telarius L.)

South Carolina. J. A. Berley and W. C. Nettles (June 23): Damaging flowers and ornamentals, often starting from sweet peas.

Indiana. J. J. Davis (June 22): Reported damaging evergreens at Plymouth June 13, and beans and sweetpotatoes at Richmond June 19. Destructive in dahlia gardens at Dublin for the past two seasons.

Mississippi. J. M. Langston (June 22): Reports of infestations on arborvitae and other ornamentals received from various sections during the past month.

Nebraska. M. H. Swenk (June 20): Red spiders reported working heavily on jack pines in Phelps County May 20 and on cedar trees in Chayenne County May 29.

Idaho. C. Wakeland (June 19): Following the unprecedented outbreak of red spiders last year and the mild winter succeeding, we have been expecting a very serious infestation this season. Normal date past when red spiders begin to severely injure trees. Many sections free of red spiders and only very mild infestation on the lower leaves of Delicious apple trees.

Utah. G. F. Knowlton (June 12): Damaging raspberries at Butlerville, Salt Lake County.

California. Kern County, Mo. News Bull. (June 1): Proving a serious and persistent pest. Many sycamore trees have turned completely brown from the attacks. Trees sprayed before injury are still in good condition. The earliest injury to sycamore and other deciduous trees in the history of this office. Preparations are being made to spray some trees the second time to prevent injury.

## CEREAL AND FORAGE - CROP INSECTS

WHEAT AND OTHER SMALL GRAINSWHEAT HEAD ARMYWORM (Neleucania albilinea Hbn.)

Maryland. E. N. Cory (June 21): This armyworm is doing considerable damage to wheat along the edges of fields near Adamstown, Frederick County.

WHEAT STEM MAGGOT (Meromyza americana Fitch)

Kansas. H. R. Bryson (June 26): The wheat stem maggot reported to be injuring wheat at Topeka.

ENGLISH GRAIN APHID (Macrosiphum granarium Kby.)

Indiana. J. J. Davis (June 22): The grain aphid was reported as very abundant on wheat in a number of localities in southeastern Indiana during the first 2 weeks in June; however, ladybird beetles have cleaned up the infestations.

APHID (Pemphigus brevicornis Hart)

Nebraska. M. H. Swenk (June 20): Specimens of this aphid were sent in on June 8 from Butler County, where they were causing severe damage to the roots of wheat plants. A similar report came from Saline County on June 19, where this or another species was infesting the roots of barley plants.

RICE STINKBUG (Solubea pugnax Fab.)

Oklahoma. C. F. Stiles (June): The rice stinkbug has been reported from McClain County as damaging oats by sucking the milk out of the developing grain.



CORNCHINCH BUG (Blissus leucopterus Say)

New Hampshire. L. C. Glover (June 25): The chinch bug has been reported as doing serious injury to golf greens in West Hopkinton.

New York. E. P. Felt (June 22): Chinch bugs are present in considerable numbers in a lawn at Scarborough. This insect has caused serious damage on golf greens and lawns in this general area during the last few years.

Indiana. J. J. Davis (June 22): In seven northwestern counties, the chinch bug killed wheat and rye and began migrating into corn much earlier than usual. The losses will be very severe. In the southwestern part of the State from Vincennes north and in the eastern and northeastern sections the bugs are very abundant, but conditions are much more favorable for control by use of barriers. In these sections, although seriously affected by drought, the bugs are remaining in the wheat and rye until about harvest time. The government aid in furnishing creosote is much appreciated by the farmers. The chinch bug is about a week or 10 days ahead of normal. On May 16 we found the first hatching eggs. On June 20, we found the first winged adults of the first generation at Lafayette. Forty-two counties are known to be infested to the extent that control measures are necessary and I feel certain that the final check-up will find all counties north of a diagonal line from Knox County on the west to Randolph County on the east, to be infested to a noticeable degree.

Illinois. W. P. Flint (June 23): Chinch bugs have been extremely destructive during the past month in nearly all parts of the State, owing to the drought. They left the small grain before it was cut. It is estimated that more than 200,000 miles of barrier have been constructed within the State.

Michigan. R. Hutson (June 22): Chinch bugs are very abundant in Berrien County, at Galien and at New Buffalo.

Minnesota. A. G. Ruggles (June 26): Chinch bugs are very abundant in a few counties.

Wisconsin. E. L. Chambers (June 25): Chinch bugs are beginning to appear in a few of our southern and western counties, but are not yet doing serious damage.

Iowa. C. J. Drake (June 25): The infestation is probably the worst in the history of Iowa. The bugs are doing damage in 60 counties. In 40 southern counties the bugs have destroyed from 75 to 90 percent of the small grain--barley, oats, and wheat. In a few counties the county agents estimate that less than 2 percent of the small grain will be harvested or cut for forage. In many counties the farmers will do very well to save one half of the corn crop. The northmost records of migration from small grain to corn being from Story, Benton, Jones, and Jackson Counties. Light infestations have been reported in a few counties in the northern part of the State. Over 2,000,000 gallons of creosote coal tar have been used this summer. The County Agent of Monroe County

stated that the farmers were very much concerned about pasturing cattle in small grain fields heavily infested. In one instance a farmer reported the death of a cow from feeding upon small grain plants covered with the bugs. A post-mortem examination of the cow showed thousands of chinch bugs in the intestinal tract. The veterinarian diagnosed the cause of the death as the result of toxins from the bugs.

Missouri. L. Haseman (June 25): We are rapidly drawing to a close the greatest active campaign of control against this pest that Missouri has ever been called on to wage. The Federal cooperation came just in time to largely save the day. About 1,250,000 gallons of barrier oil have been furnished by the Federal department, saving a good many millions of bushels of corn. Bugs will continue to migrate until the first of July in some counties. but the available supply of oil will about take care of our needs. About 70 counties have been heavily infested and 20 or 30 of these most seriously.

Nebraska. M. H. Swenk (June 20): Late in May and early in June a very severe infestation of the chinch bug developed in southeastern Nebraska, extending north into Butler, Saunders, and Sarpy Counties. Less severe infestations involving serious crop destruction occurred in the four counties immediately west of this area. A separate infestation of less severity developed in south central Nebraska. The migration started fully 10 days earlier than the earliest beginning of a chinch bug migration previously recorded (June 12, 1933), and nearly 3 weeks ahead of the average beginning of migration (June 21).

Kansas. H. R. Bryson (June 26): Chinch bugs began migrating at Manhattan on June 1 and reached the peak of migration on June 14. They are very abundant in the eastern two fifths of the State. Extensive use was made of dust and creosote barriers. The adults were flying to other fields on June 19 and 20.

#### CORN ROOT APHID (Anuraphis maidi-radicis Forbes)

Iowa. C. J. Drake (June 25): The corn root aphid has been reported from a large number of counties in Iowa this spring. In several instances the fields are so heavily infested and badly injured that the farmers have given up trying to grow corn and are replanting the fields to soybeans. In Story County the aphid was found in large numbers feeding on the roots of melon plants, an unusual record for this insect.

#### CORN EAR WORM (Heliothis obsoleta Fab.)

North Carolina. R. W. Leiby (June 14): The corn ear worm is either more destructive than usual on commercially grown corn in the eastern part of the State or there is more than the usual interest in preventing damage.

South Carolina. W. C. Nettles (June 23): The corn ear worm is damaging young tomatoes at Clemson College. In the eastern section it has damaged seed heads of flax in experimental plantings.

Iowa. C. J. Drake (June 25): Many farmers, especially growers of sweet corn,

are asking about the corn ear worm. Apparently the insect is widely distributed in the State and may do a considerable amount of damage.

Kansas. H. R. Bryson (June 26): The corn ear worm is very abundant. A considerable amount of damage has been done to the curl of the corn plants. The insect also has been reported injuring tomato fruit at Canton and Wichita.

#### SUGARCANE BEETLE (Euethola rugiceps Lec.)

Georgia. O. I. Snapp (June 13): This insect has destroyed the corn on about 20 acres of very fertile bottom land at Haddock.

Illinois. W. P. Flint (June 23): There has been a very widespread and extremely destructive outbreak of the rough-necked cornstalk beetle in the southern third of the State.

C. L. Metcalf (June 20): The sugarcane beetle has been reported as very destructive to corn in Hamilton County. The injured field of corn and soybeans adjoins 160 acres of bottom land, most of which is in cultivation this year for the first time in 4 years.

Mississippi. J. M. Langston (June 22): On June 9 a grower at Dorsey, Itawamba County, sent adults to this office, with a report that they had severely injured young corn. Complaints of injury were also received from Rockport, Copiah County, during the latter part of May.

#### FLEA BEETLES (Halticinae)

Indiana. J. J. Davis (June 22): Flea beetles are the second most important pest of field crops in Indiana. The pale-striped flea beetle (Systema taeniata blanda Melsh.) is the predominating species attacking corn and by far more abundant than I have ever known it to be. Specific records include: At Connersville, in one field, 216 tomato plants destroyed in one night; at Goshen, 30 to 40 percent of corn taken in some fields, also attacking soybeans, Canada thistle, morning glory, and milkweed; at Fort Wayne, destroying corn and truck crops; at Hamilton, a 16-acre field of corn was destroyed and other cornfields were seriously damaged; a serious pest in corn fields at South Bend, Rochester, Albion, and Topeko. All of these infestations are in the northern half of the State. Striped flea beetles (species unknown) were reported damaging corn, beans, beets, and potatoes at Aurora, Avilla, and Danville on June 1 to 6, and the black potato flea beetle was reported from Aurora, Avilla, and North Judson on June 1, 6, and 15, respectively.

Michigan. R. Hutson (June 12): We are having trouble with the pale-striped flea beetle on field corn in the southern tier of counties. (June 13): The pale-striped flea beetle was reported today from several points in the northern half of the lower peninsula.

Wisconsin. E. L. Chambers (June 18): The pale-striped flea beetle has been unusually abundant this month throughout the south central portion of the State, destroying large acreages of corn and potatoes.



CORN BILLBUGS (Calendra spp.)

- Indiana. J. J. Davis (June 22): Billbugs (species undetermined) were very destructive to several fields of corn, according to information received on June 18.
- Minnesota. A. G. Ruggles (June 26): C. aequalis Gyll. reported from Redwing and St. Paul on corn; C. pertinax Oliv. Marshall reported on corn.
- Iowa. C. J. Drake (June 25): Many fields of corn here and there have been badly injured, or entirely destroyed by billbugs (several species) this spring.
- North Dakota. J. A. Munro (June 14): The clay-colored billbug (C. aequalis) is reported as very abundant in a farm yard at Eldridge, Stutsman County.
- Nebraska. M. H. Swenk (June 20): Timothy billbugs (C. parvulus Gyll.) were reported to be destroying corn on May 26 in Richardson County. The clay-colored billbug was reported as destroying corn in Madison County on June 7. On June 20 a Lancaster County farmer brought in some corn destroyed by the latter species.
- Alabama. J. M. Robinson (June 23): Corn billbugs are moderately abundant at Spring Hill.

ALFALFAALFALFA WEEVIL (Hypera postica Gyll.)

- Idaho. C. Wakeland (June 19): No injury is reported in southern or southwestern Idaho but the weevil is seriously injuring alfalfa in the upper Snake River Valley where spraying is being done for control.
- California. A. E. Michelbacher (June 23): Over its entire range in central California the alfalfa weevil has shown an increase in numbers during the past month. On June 15 as high as 122 larvae to 100 sweeps were collected in the Tracy area. About Pleasanton on June 18, counts as high as 225 larvae were taken, while in the Niles district collections of over 1,000 larvae were made. Most of the larvae collected were small, many being very small. Many of these larvae are evidently the beginning of a second brood.

SUGARCANESUGARCANE BEETLE (Euetheola rugiceps Lec.)

- Louisiana. J. W. Ingram, W. A. Douglas, and E. K. Bynum (June): Beetle injury in the sugarcane section was practically over the last of June. The heaviest injury occurred during May. Loss from injury to sugarcane was 40 to 50 percent less than in the 3 years. This decrease was due partly to the growing of varieties giving a larger number of plants per acre and having greater recovery ability on land that is subject to heavy beetle injury, and in part to increased rainfall at the time of injury, which stimulated growth and increased recovery.

## FRUIT INSECTS

APPLECODLING MOTH (Carpocapsa pomonella L.)

- Delaware. L. A. Stearns (June 23): Emergence of spring-brood moths ended by June 14; peak of first-brood larval entry, June 7 to 14.
- South Carolina. F. Sherman (June 23): The codling moth is apparently less abundant than normal at Clemson College.
- Georgia. C. H. Alden (June 23): Codling moth moderately abundant at Cornelia, first brood moths appearing in numbers on June 17.
- Indiana. J. J. Davis (June 22): Codling moth is as abundant or more so than in 1926 or 1930, and the second-brood worms will be appreciably earlier than usual. In many regions more than the usual number of sprays will need to be applied.
- Michigan. Ray Hutson (June 12): Adults became active in Berrien County on May 18, more than a week earlier than any marked flight was noticed a year ago. Exceedingly hot weather has brought the peak of emergence at least 2 weeks before the usual date.
- Wisconsin. C. L. Fluke (June 23): The codling moth is more abundant than last year. The peak of emergence was reached on May 31.
- Missouri. L. Haseman (June 25): The situation is again serious. Most of the first-brood larvae were out of the fruit by June 20, indicating that the July brood of moths will be heavy and bunched.
- Minnesota. A. G. Ruggles (June 26): The codling moth appears to be relatively scarce. It will have only a few apples to feed on, as the drought has caused a tremendous drop.
- Kansas. H. R. Bryson (June 26): The codling moth is about as injurious as usual in Doniphan County. Hail in the vicinity of Atchison damaged apples so that increased injury by the second brood of codling moth can be expected.
- Oregon. B. G. Thompson (May 28): Codling moth depositing considerable number of eggs the last few days. First moth found on May 21.
- California. E. O. Essig (June 24): The codling moth is moderately abundant.
- EASTERN TENT CATERPILLAR (Malacosoma americana Fab.)
- Maine. H. B. Peirson (June 10): The insect is general in the State, with very heavy outbreaks.
- New Hampshire. L. C. Glover (June 25): Slightly less abundant this year over the State as a whole, but more abundant in some localities. Flying moths were observed to be very numerous on June 22.

Massachusetts. A. I. Bourne (June 25): Within the past week we have been catching large numbers of adults in light traps in commercial orchards.

Connecticut. E. P. Felt (June 22): Unusual numbers of moths are flying in the Stamford area, indicating that there will probably be an abundance of these insects next season.

New Jersey. R. C. Burdette, B. F. Driggers, and C. D. Hamilton (June 27): First adults were noted on June 15.

Minnesota. A. G. Ruggles (June 26): Very abundant around Lake Mille Lac, Saint Cloud, Wadena, Park Rapids, Walker, and Brainerd.

Wisconsin. W. E. Britton (June 23): The eastern tent caterpillar is very abundant.

#### FRUIT TREE LEAF ROLLER (Cacoecia argyrospila Walk.)

Connecticut. P. Garman (June): Unusually abundant in several orchards at Wallingford, where it appears to be increasing. Larvae observed in many orchards surrounding those heavily infested.

Indiana. J. J. Davis (June 22): The fruit tree leaf roller was reported as very destructive at Saint Joe on May 24, the first report of abundance of this insect received during the past 10 years.

California. E. O. Essig (June 24): The fruit tree leaf roller is moderately abundant.

#### PEAR BORER (Synanthedon pyri Harr.)

Virginia. W. S. Hough (June 4): The pear borer is very common on apple trees in commercial orchards at Winchester. The borer seems to be especially active on trees that were weakened by the 1930 drought. The moths are emerging in large numbers at this writing.

#### RASPBERRY CANE BORER (Oberea bimaculata Oliv.)

Indiana. J. J. Davis (June 22): The raspberry cane borer was reported as destructive in commercial dahlia gardens at Dublin.

#### A FLEA BEETLE (Haltica foliacea Lec.)

Kansas. H. R. Bryson (June 26): A green flea beetle, H. foliacea, was reported injuring seedling apples at Saint George, Wathena, and Topeka, as well as at several places along the Kansas River Valley. Also reported attacking poppies at Manhattan.

#### APPLE LEAF-GURLING MIDGE (Dasyneura mali Kieff.)

Massachusetts. A. I. Bourne (June 25): Professor Whitcomb reports that the apple leaf-curling midge is very abundant along the north shore.



APHIDS (Aphididae)

Connecticut. P. Garman (June 23): Green aphids (Aphis pomi DeG.) present throughout the season in New Haven, Hartford, and Middlesex Counties, but kept in check by enemies. The rosy aphid (Anuraphis roseus Bak.) is scarce.

New York. N. Y. State Coll. Agr. News Letter (June): The apple aphid during the last week in the month became noticeably abundant in the Hudson River Valley and in the western fruit-growing section. During this period the rosy aphid began to appear in numbers in western New York. No reports of serious aphid abundance were received. (Abs. J.A.H.)

P. J. Chapman (June 20): A. roseus and Aphis pomi are moderately abundant in the Hudson Valley.

P. J. Parrot (June 25): A. pomi is scarce to moderately abundant in the western part of the State; Anuraphis roseus equally abundant.

New Jersey. R. C. Burdette, B. F. Driggers, and C. C. Hamilton (June 27): Green fruit aphids are very abundant.

Maryland. E. N. Cory (June 21): Rosy aphids are moderately abundant in Anne Arundel County.

South Carolina. F. Sherman (June 23): The rosy apple aphid is perhaps more abundant than usual at Clemson College.

Georgia. C. H. Alden (June 22): Green and rosy aphids are moderately abundant at Cornelia.

Missouri. L. Haseman (June 25): Some rosy aphids appeared, but they were controlled promptly by ladybird beetles.

Tennessee. G. M. Bently (June): The woolly aphid (Eriosoma lanigerum Hausm.) is moderately abundant on apple twigs in the western part of the State.

Mississippi. J. M. Langston (June 22): Apple twigs severely infested with A. pomi were received from Greenwood, Leflore County, on May 24.

California. E. O. Essig (June 24): Fruit aphids are moderately abundant.

LEAFHOPPERS (Cicadellidae)

Maryland. E. N. Cory (June 21): Apple leafhoppers Tynphlocyba pomaria McAtee are generally abundant.

Michigan. R. Hutson (June 12): Apple leafhoppers are very prevalent in Van Buren County.

New Jersey. R. C. Burdette, B. F. Driggers, and C. C. Hamilton (June 27): Apple leafhoppers are moderately abundant.

Kansas. H. R. Bryson (June 26): Empoasca sp. reported to be causing considerable injury to apple leaves in orchards in Doniphan County. There is a possibility of serious injury resulting within the next 2 months if steps are not taken to control them.

SAN JOSE SCALE (Aspidiotus perniciosus Comst.)

Massachusetts. A. I. Bourne (June 25): As yet very little evidence of San Jose scale is apparent, indications being that there is a considerable winter mortality.

Maryland. E. N. Cory (June 21): The San Jose scale is very abundant in Anne Arundel County.

Georgia. O. I. Snapp (June 15): Predators and parasites are abundant in peach orchards that have been heavily infested with the San Jose scale in Fort Valley, and during the last 2 months they have materially reduced that orchard pest.

PEACH

ORIENTAL FRUIT MOTH (Grapholitha molesta Busck)

Massachusetts. A. I. Bourne (June 25): The infestation is very general over the entire peach-growing sections of the State but it is quite variable in each section. In some commercial orchards where for the previous years the insect has been very abundant, it is now difficult to find. We note the greatest reduction in abundance in those sections where parasites have been liberated in greatest numbers.

Connecticut. P. Garman (June 23): First brood abundant in some orchards in New Haven and Hartford Counties. Larval parasites of the first brood scarce; egg parasites present in some places. Winter conditions may be responsible for low parasitism.

New Jersey. H. W. Allen (June 8): The catch of moths in bait pans from the overwintering brood has been slightly higher this spring than last and much higher than in 1931 and 1932, averaging at the peak more than 10 moths per day, per pan. Twig infestation has also been moderately heavy.

Pennsylvania. H. W. Allen (June 2): On May 25 and 26 a moderate infestation of peach twigs was found in orchards in Franklin County, but a much heavier infestation was found on the other side of the mountain in Adams County.

Delaware. L. A. Stearns (June 23): Twig injury by oriental fruit moth just appearing June 20.

Maryland. E. N. Cory (June 21): The oriental fruit moth is very abundant.

H. W. Allen (June 8): On May 21 very little infestation of the twigs of peach by first-brood larvae could be found in Dorchester, Wicomico,

or Worcester Counties. On May 24 a heavy infestation of peach twigs was noted in many orchards about Smithsburg, Washington County.

Virginia. H. W. Allen (June 8): On May 16 and 17 first-brood infestation of peach twigs was moderately heavy in many of the orchards in Albemarle County and heavy in Augusta County.

Georgia. O. I. Snapp (June 19): Some damage to terminals of twigs of non-bearing peach trees in and near Fort Valley, but of no importance in bearing orchards of this district.

C. H. Alden (June 23): A light twig infestation by the oriental fruit moth was noticeable on June 19 at Cornelia.

Mississippi. J. M. Langston (June 22): Peach twigs injured by larvae have recently been received from Greenwood, Leflore County.

#### PEACH BORER (Aegeria exitiosa Say)

New Jersey. R. C. Burdette, B. F. Driggers, and C. C. Hamilton (June 27): The peach borer is moderately abundant.

Georgia. O. I. Snapp (May 31): The first cocoon (pupa) of the season was collected from a peach tree in Fort Valley today. An empty cocoon with cast pupal skin, indicating that adults had already emerged, was also found today in the same tree. These are the earliest records for this latitude. The tree was infested with insectary-hatched larvae on July 20, 1933. (June 18): The first moth (female) of the season emerged today in Fort Valley. This is the earliest moth emergence date on record for this latitude under peach orchard conditions.

#### PLUM CURCULIO (Conotrachelus nenuphar Hbst.)

Massachusetts. A. I. Bourne (June 25): The plum curculio is present in normal numbers.

Delaware. L. A. Stearns (June 23): First-brood grubs are in the soil. The infestation of the short peach crop is moderate-to-severe.

New Jersey. R. C. Burdette, B. F. Driggers, and C. C. Hamilton (June 27): The plum curculio is moderately abundant.

Maryland. E. N. Cory (June 21): The plum curculio is very abundant. Typical killing of twigs on peach is noted.

Georgia. O. I. Snapp (May 28): The first pupation of the season took place today at Fort Valley. The cold rainy weather in May retarded the development of the curculio in the soil, and as a result it is doubtful whether there will be a second brood. Usually only one generation occurs in this latitude when pupation is as late as the last of May. Cool weather continues and will undoubtedly prolong the pupation period. (June 6): The first transformation to adult beetles in soil cells was recorded today. (June 13): The first new beetles of the season emerged from the soil today. This is 17 days later than the first emergence last year.



On account of the late emergence of first-generation an attack by the second brood is not anticipated, except perhaps in the Elberta, which is the last variety to move. (June 19): There has been no egg deposition by the second generation to date. (June 22): First-generation adults are now emerging in large numbers. Jarrings during the past week show an increase of over 300 percent in the number of adults.

Minnesota. A. G. Ruggles (June 26): The plum curculio is very abundant.

North Dakota. J. C. Russell (June 13): The plum curculio is very abundant.

Missouri. L. Haseman (June 25): During June oviposition was continued and was serious on plums but light on apple.

#### PEAR

##### PEAR PSYLLA (Psyllia pyricola Foerst.)

Connecticut. P. Garman (June 23): Very abundant in some orchards in New Haven County.

New York. N. Y. State Coll. Agr. News Letter (June): Adults are very numerous throughout the State. Egg laying is heavy and in many places the situation is serious. (Abs. J.A.H.)

P. J. Parrot (June 25): The pear psylla is from moderately to very abundant in the western part of the State.

##### A MIDGE (Dasyneura pyri Kieff.)

Connecticut. P. Garman (June 23): A midge, probably this species, is rolling the edges of pear leaves and is increasing in abundance. Observed in several orchards in New Haven.

##### A CURCULIONID (Phyllobius oblongus L.)

New York. C. R. Crosby (June 7): Beetles abundant; feeding on pear foliage in Penfield. (This European beetle was first discovered in this country in 1923. See Insect Pest Survey Bulletin Vol. 3, pp.200-201, 1923).

#### CHERRY

##### CHERRY FRUIT FLIES (Rhagoletes spp.)

Oregon. S. C. Jones (May 28): First adults of R. cingulata Loew were found in emergence cages on May 14 near Corvallis, Rickreall, and Amity. Last year the first flies were found on June 16 in emergence cages.

Michigan. R. Hutson (June 12): Both the dark-banded and the light-banded cherry fruit flies have emerged earlier than usual. The dark-banded (R. fausta O.S.) was first obtained on Friday, June 1, at Gobles, and the white-banded (R. cingulata) was first taken this year at Saint Joseph. The emergence of both species was exceedingly rapid and

progressed from the Indiana line to the Grand Traverse district, practically 300 miles north, within a period of 1 week. The dates for emergence of the dark-bodied flies were June 4 at Grand Rapids and June 6 at Shelby, while the white-banded fly was taken at Beulah on June 7. (June 22): R. fausta emerged on June 14 at Northport and R. cingulata emerged on June 13 at Traverse City.

#### BLACK CHERRY APHID (Myzus cerasi Fab.)

Michigan. R. Hutson (June 13): Black cherry aphids are working on sweet cherries at Monroe.

Montana. A. L. Strand (May 29): A severe infestation occurred again this year in the Flathead Lake region. The stem mothers appeared on the buds as early as March 15 and spraying began on the 20th.

#### CHERRY LEAF BEETLE (Galerucella cavicollis Lec.)

Virginia. W. J. Schoene (June 6): A small red beetle has been reported as doing considerable damage to young foliage on cherry and peach in Rockingham and Augusta Counties. The same insect was reported at this season of the year in 1933. (Det. by H. S. Barber)

#### PLUM

#### THISTLE APHID (Anuraphis cardui L.)

Idaho. C. Wakeland (June 19): The thistle aphid caused more injury to prune trees in southern Idaho this year than during any preceding year. It is estimated that 50 percent of the prune crop is lost.

#### GRAPE

#### GRAPE LEAFHOPPER (Erythroneura comes Say)

Michigan. R. Hutson (June 12): The grape leafhopper is showing in enormous numbers in some vineyards in Berrien and Van Buren Counties.

Nebraska. M. H. Swenk (June 20): The grape leafhopper was working on woodbine and grape vines in Dawson, Sheridan, Dundy, and Harlan Counties, according to reports received from those counties on May 19, May 29, June 7, and June 16, respectively.

#### GRAPE PLUME MOTH (Oxyptilus periscelidactylus Fitch)

Massachusetts. A. I. Bourne (June 25): We received more complaints this year than usual during the early part of the month.

#### GRAPE CANE GIRDLER (Ampelogypter ater Lec.)

Massachusetts. A. I. Bourne (June 25): The grape cane girdler is reported by Professor Whitcomb as being considerably more numerous than usual in Middlesex County.

CURRENT AND GOOSEBERRIESCURRENT APHID (Myzus ribis L.)

Utah. G. F. Knowlton (May 25): Aphids are cupping and curling current leaves at Farmington. Some bushes are heavily attacked.

IMPORTED CURRENT WORM (Pteronidea ribesii Scop.)

North Dakota. J. A. Munro (June 14): The imported current worm is very abundant on gooseberries and currents at Fargo, Cass County.

GOOSEBERRY FRUIT WORM (Zophodia grossulariae Riley)

Minnesota. A. G. Ruggles (June 26): Z. grossulariae is wilting leaves of gooseberries from Aitkin.

Utah. G. F. Knowlton (May 25): Gooseberry fruit worms are now maturing at Farmington. They have caused moderate damage to gooseberries and currents.

CURRENT FRUIT FLY, (Epochra canadensis Loew)

Minnesota. A. G. Ruggles (June 26): E. canadensis in gooseberries from Duluth.

BLUEBERRYBLUEBERRY SPANWORM (Itame inceptaria Walk.)

Maine. H. B. Peirson (June 13): The blueberry spanworm was reported from North Whitefield on June 13, where a heavy flight of moths were seen in blueberry fields.

CITRUSA TORTRICID LEAFTIER (Platynota stultana Walsm.)

California. E. A. McGregor (June 18): This tortricid caterpillar is attacking green oranges again in California. Damage to this crop had been unknown prior to the initial observations in 1933. In the Corona district certain orange groves on June 8 had from 50 to 80 percent of the small green fruits more or less damaged by this worm. It is known rather generally by the proposed name, "calyx worm."

FIGTHREE-LINED FIG BORER (Ptychodes trilineata L. )

Mississippi. J. M. Langston (June 22): A medium infestation in fig trees at Moss Point, Jackson County, was reported on June 15.



## TRUCK - CROP INSECTS

## BLISTER BEETLES (Meloidae)

Florida. J. R. Watson (June 27): The blister beetles, particularly the striped blister beetle (Epicauta vittata Fab.) has been very abundant during the past month. It has defoliated nearly all the black nightshades, Solanum nigrum and S. gracile, in Alachua County.

Wisconsin. C. L. Fluke (June 15): The gray blister beetle (E. cinerea Forst.) is infesting soybeans in Dane County, alfalfa in Clarke County, and small grains in Waukesha County.

Minnesota. A. G. Ruggles (June 26): The ash-gray blister beetle (M. unicolor Kby.) is very abundant in Big Stone, Chicago, Houston, Stevens, Yellow Medicine, and Lac Qui Parle Counties.

North Dakota. J. A. Munro and assistants (June): The ash-gray blister beetle is very abundant on caragana, alfalfa, etc., at Fargo, Cass County. The beetles are very abundant in Bowman, Burke, McKenzie, Morton, Stutsman, and Ward Counties.

Nebraska. M. H. Swenk (June 20): Inquiries concerning the control of the immaculate blister beetle (M. immaculata Say) on potatoes, tomatoes, and other garden truck, were received from several parts of the State. Other species of blister beetles reported are: M. unicolor, E. maculata Say, and E. lemniscata Fab.

Kansas. H. B. Hungerford (June 15): M. segmentata Say is doing much damage to potatoes in Washington County.

Tennessee. G. M. Bentley (June): Blister beetles, E. vittata Fab., E. cinerea, and E. pennsylvanica DeG., are reported as doing damage to various crops and flowers throughout the State.

FALSE CHINCH BUG (Nysius ericae Schill.)

Iowa. C. J. Drake (June 25): The false chinch bug has been reported from several counties in the State. Some injury has been reported in rape fields and on other Cruciferae. During the past 3 years false chinch bugs have been very abundant in practically every county in the State.

GARDEN SPRINGTAIL (Sminthurus hortensis Fitch)

Massachusetts. A. I. Bourne (June 25): Late in May and early in June we had several complaints of garden springtails occurring both in seed beds and on young garden plants that were just appearing above ground.

POTATO AND TOMATOCOLORADO POTATO BEETLE (Leptinotarsa decemlineata Say)

Delaware. L. A. Stearns (June 23): The Colorado potato beetle is very abundant throughout the State.

New York. N. Y. State Coll. Agr. News Letter (June): Larvae began to appear in numbers early in the second week of June on Long Island. Egg laying in Suffolk County reached its peak during the second week. The pest was also abundant in Nassau and Richmond Counties at that time.

New Jersey. R. C. Burdette, B. F. Driggers, and C. C. Hamilton (June 27): The Colorado potato beetle is very abundant.

Maryland. E. N. Cory (June 21): Very abundant and injuring tomatoes.

Minnesota. A. G. Ruggles (June 26): The Colorado potato beetle is very abundant.

Nebraska. M. H. Swenk (June 20): The Colorado potato beetle was reported as damaging potatoes and tomatoes from May 22 to June 12 in Lancaster, Merrick, Nuckolls, Howard, Furnas, and other Counties. The convergent ladybird beetle (Hippodamia convergens Guer.) was frequently reported as destroying the potato beetle eggs.

Tennessee. G. M. Bentley (June): The Colorado potato beetle is very abundant.

Utah. G. F. Knowlton (May 25): Adults have been taken only on volunteer potatoes in the southern part of Weber and the northern part of Davis Counties.

#### POTATO FLEA BEETLE (Epitrix cucumeris Harr.)

New Hampshire. L. C. Glover (June 25): The potato flea beetle is doing considerable damage to garden crops.

Massachusetts. A. I. Bourne (June 25): Flea beetles, particularly potato flea beetles, are more abundant than usual.

Connecticut. N. Turner (June 21): The potato flea beetle is very abundant.

Michigan. R. Hutson (June 13): Damage has been reported from practically all the southern half of the lower peninsula.

North Dakota. J. A. Munro (June 14): The potato flea beetle is troublesome to the potatoes and tomatoes at Fargo, in Cass County.

#### A CERAMBYCID (Prionus fissicornis Hald.)

Nebraska. M. H. Swenk (June 20): Larvae of this beetle were reported as doing considerable damage to potato vines in Deuel County on May 31.

#### TARNISHED PLANT BUG (Lygus pratensis L.)

Maryland. E. N. Cory (June 21): The tarnished plant bug is doing considerable damage to Irish potatoes in Worcester County.

Indiana. J. J. Davis (June 22): The tarnished plant bug was reported damaging blossoms of potatoes at North Judson on June 15.

#### POTATO LEAFHOPPER (Empoasca fabae Harr.)

Maryland. E. N. Cory (June 21): Potato leafhoppers are very abundant.

NORTHERN MOLE CRICKET (Gryllotalpa hexadactyla Perty.)

Indiana. J. J. Davis (June 22): Mole crickets were reported damaging potatoes at Elkhart on June 4. They were working in low ground.

GARDEN CENTIPEDE (Scutigera immaculata Newp.)

Maryland. E. N. Cory (June 21): The garden centipede destroyed almost an entire bed of tomato seedlings in Anne Arundel County and almost two thirds of the seedlings of second planting.

California. A. E. Michelbacher (June 23): In San Francisco the garden centipede (S. immaculata) was observed to be doing serious damage to snapdragons in a greenhouse.

BEANSMEXICAN BEAN BEETLE (Epilachna corrupta Muls.)

Connecticut. N. Turner (June 22): Damage in the southern part of the State seems slightly less severe than in 1933. However, egg mass counts show little difference. Apparently the severe winter had little effect on this insect.

New York. N. Y. State Coll. Agr. News Letter (June): Reported in Dutchess and Suffolk Counties during the first week in the month. On Staten Island it was defoliating beans. Egg laying occurred in Ulster County the first week and in Suffolk County was heavy during the second week of the month. (Abs. J.A.H.)

Delaware. L. A. Stearns (June 23): The Mexican bean beetle is very abundant over the State.

Maryland. J. A. Hyslop (June 15): Very numerous and destructive at Avel. E.

E. N. Cory (June 21): The survival of Mexican bean beetles is 0.05 percent in cages at Salisbury.

South Carolina. F. Sherman (June 23): The Mexican bean beetle is more abundant than usual at Clemson College.

Georgia. O. I. Snapp (June 18): The Mexican bean beetle is more numerous than usual at Fort Valley and many reports of damage to the bean crop have been received recently.

T. L. Bissell (June 2): Adults were abundant and were feeding on foliage at Experiment on May 28, -only 1 egg mass found. The adults were feeding extensively on June 2 and 1 larva was found.

Indiana. J. J. Davis (June 22): The Mexican bean beetle was reported from many localities in the northern half of the State on June 14.

Illinois. W. P. Flint (June 23): A few reports have been received of injury.

Michigan. R. Hutson (June 13): Adults are present in bean plantings at Monroe and eggs are plentiful.



Tennessee. G. M. Bentley (June): In Knox County the Mexican bean beetle is less abundant than last year.

Alabama. J. M. Robinson (June 23): The Mexican bean beetle is more abundant than at any time since it entered Auburn.

Mississippi. J. M. Langston (June 22): A severe infestation on pole beans was reported by a grower at Hattiesburg, Forrest County, on May 27.

#### BEAN APHID (Aphis rumicis L.)

Maryland. E. N. Cory (June 21): The bean aphid is doing considerable damage in spots on the Eastern Shore.

#### SEED CORN MAGGOT (Hylemyia cilicrura Rond.)

Massachusetts. A. I. Bourne (June 25): Several reports were received of injury caused in market garden plantings in Hampden County. The injury was almost entirely confined to lima beans and the damage was so severe that several large plantings were harrowed up and the area planted to some other crop. The damage seemed to be confined to lima beans, while ordinary string beans growing in plots alongside showed either no injury or very slight injury in the rows immediately adjoining the lima beans.

#### PEAS

#### PEA APHID (Illinoia pisi Kalt.)

Michigan. R. Hutson (June 13): Pea Aphids have appeared in Ogemaw County at Rose City, and in Ionia County at Lake Odessa.

Wisconsin. J. E. Dudley, Jr. (June 15): High temperatures occurred throughout the pea-growing sections of Wisconsin during the last 2 weeks in May and the drought continued. These high temperatures, and especially the high maxima, were detrimental to the aphids and the infestation dropped off noticeably, so that by the latter part of May there was no serious infestation in any of the fields inspected around Madison, and the reproduction of aphids was very small.

#### CABBAGE

#### CABBAGE MAGGOT (Hylemyia brassicae Riley)

Massachusetts. A. I. Bourne (June 25): The cabbage maggot was very abundant this year, and we had many more complaints than usual regarding its attack.

New York. N. Y. State Coll. Agr. News Letter (June): In Cayuga County the flies had practically disappeared by the end of the first week. Severe injury by maggots in the western part of Suffolk County and one third of field plants in some untreated fields in Onondaga and Niagara Counties were destroyed by the end of the first week. (Abs. J.A.H.)

Montana. A. L. Strand (May 29): Severe infestations are present in western Montana, particularly in the Bitter Root Valley.

MELONSSTRIPED CUCUMBER BEETLE (Diabrotica vittata Fab.)

- Connecticut. W. E. Britton (June 23): The striped cucumber beetle is moderately abundant and in a few localities very abundant.
- Indiana. J. J. Davis (June 22): The striped cucumber beetle has been reported as destructive in a number of localities in all sections of the State beginning June 8.
- Michigan. R. Hutson (June 22): The striped cucumber beetle is very abundant.
- Wisconsin. C. L. Fluke (June 20): The striped cucumber beetle was found on beans in Douglas County; on 80 acres of corn in Walworth County, and on cucumbers in Milwaukee County. (June 23): Very numerous on cucumbers and melons in Crawford County.
- Minnesota. A. G. Ruggles (June 26): The striped cucumber beetle is very abundant.
- North Dakota. J. A. Munro (June 14): Plantings have been very seriously damaged by the striped cucumber beetle.
- Nebraska. M. H. Swenk (June 20): The striped cucumber beetle was reported on June 8 from Howard County, where it was doing much damage to watermelon vines, while several reports have been received from Lancaster County the past week.
- Kansas. H. R. Bryson (June 26): The striped cucumber beetle is very abundant on squashes and melons in the trucking areas near Manhattan.
- Tennessee. G. M. Bentley (June): The striped cucumber beetle is moderately abundant in Knox County.
- Mississippi. J. M. Langston (June 22): June 12 a correspondent at Friar Point, Coahoma County, sent to this office cantaloupes which had been injured by larvae feeding on the outside, where they came in contact with the ground. Injury of the same type was also found on cantaloupes at State College on June 15.

SQUASHSQUASH BUG (Anasa trista DeG.)

- Idaho. C. Wakeland (June 19): The squash bug has increased its distribution until we now find it generally distributed through southwestern Idaho and yesterday I picked it up at King Hill in central Idaho.
- Kansas. H. R. Bryson (June 26): Squash bugs are very abundant and are causing considerable injury in the eastern half of the State.
- Utah. G. F. Knowlton (June 11): Squash bugs are damaging squash plants at Hyde Park.

ASPARAGUSASPARAGUS BEETLES (Crioceris spp.)

Iowa. H. E. Jaques (June 25): Both the common (C. asparagi L.) and the spotted (C. duodecimpunctata L.) asparagus beetles are now moderately abundant in some parts of southeastern Iowa.

CELERYPARSLEY STALK WEEVIL (Listronotus latiusculus Boh.)

Michigan. R. Hutson (June 12): The parsley stalk weevil has caused considerable trouble in celery about Kalamazoo.

SEED CORN MAGGOT (Hylemyia cilicrura Rond.)

Michigan. R. Huston (June 12): The bean maggot, sometimes called the seed corn maggot (H. cilicrura R.), has been exceedingly troublesome in celery. This injury has been very markedly associated with the use of raw organic matter as top-dressing.

SPINACHSPINACH LEAF MINER (Pegomya hyoscyami Panz.)

Connecticut. R. B. Friend (June 23): The spinach leaf miner infestation is light this year, but more abundant than it has been for 2 or 3 years.

New York. N. Y. State Coll. Agr. News Letter (June): The spinach leaf miner became abundant in Nassau and Richmond Counties during the first week in the month and was serious on beets and spinach in Nassau County by the end of the month.

Maryland. E. N. Cory (June 21): The spinach leaf miner is attacking spinach, beet, and turnip leaves at Cumberland.

STRAWBERRYSTRAWBERRY WEEVIL (Anthonomus signatus Say)

New Hampshire. L. C. Glover (June 25): Severe injury at North Stratford.

Massachusetts. A. I. Bourne (June 25): The strawberry weevil was reported as doing much damage to strawberry plantings in Falmouth.

Kansas. H. R. Bryson (June 26): The strawberry weevil has increased to outbreak numbers in two patches in Doniphan County.

STRAWBERRY ROOT WEEVILS (Brachyrhinus spp.)

New Hampshire. L. C. Glover (June 25): B. ovatus L. reported as severely injurious at North Stratford.

Utah. G. F. Knowlton (May 25): Strawberry root weevils and the rough strawberry weevil (B. rugostriatus Goeze) are damaging second-year strawberry plants at Bountiful. Stages from half-grown larvae to mature, dark-colored adults



were found, but most were in the pupal or early adult stage. Similar damage is also occurring in various parts of Utah and Cache Counties.

Oregon. D. C. Mote (May 28): Strawberry root weevil B. ovatus pupating and adults are appearing. Adults of the rough strawberry root weevil are also emerging.

A TORTRICID (Ablabia longana Haw.)

Oregon. D. C. Mote (May 28): Strawberry and iris worms pupating, the first pupa being found on May 4.

MINT

MINT FLEA BEETLE (Longitarsus menthaphagus Gentner)

Indiana. J. J. Davis (June 22): Mint flea beetle very destructive in several localities in northern Indiana.

SUGAR BEETS

BEET LEAFHOPPER (Eutettix tenellus Sak.)

Idaho. C. Wakeland (June 19): Following the migration flight, tomato plants are blighted severely throughout the southern part of the State and bean plants are generally showing curly top. Curly top became so severe in the beet-growing districts in Twin Falls County that a large percentage of the beets have been plowed up and the prospect now is that there will be a very small acreage in southern Idaho.

SUGAR BEET ROOT MAGGOT (Tetanops aldrichi Hendel)

Utah. G. F. Knowlton (May 25): Sugar beet root maggots are reported as destructive at Hooper. (June 5): They are killing young sugar beets at Kaneshville, in Weber County, and (June 11) causing moderate-to-severe damage to sugar beets in the fields at Amalga and Benson, reducing stands in some fields.

ZEBRA CATERPILLAR (Manestra picta Harr.)

Utah. G. F. Knowlton (June 5): Zebra caterpillars, attacking and webbing sugar beet foliage, were brought in from North Logan.

TOBACCO

A TOBACCO HORNWORM (Phlegethontius sp.)

Florida. F. S. Chamberlin (June 11): Infestations of the hornworm are about normal.

A SOD WEEWORM (Crambus sp.)

Maryland. E. N. Cory (June 21): Approximately one third of a 50,000-plant field in Anne Arundel County was injured.

## FOREST AND SHADE-TREE INSECTS

PERIODICAL CICADA (Magicicada septendecim L.)

Virginia. W. S. Hough (June 4): A small brood of the seventeen-year cicada was reported from Frederick County.

Pennsylvania. J. L. Kinter (June 11): Immense numbers of the plague in the vicinity of Homer City, singing and laying eggs.

D. C. Washburn (May 28): Reported as appearing nightly in hordes near Lutzdale, Alleghany County.

Ohio. G. T. Greer (June 5): Cicada septendecim observed in Wick Park, Youngstown, Mahoning County, on May 27. Since that time they have increased to a normal number for any locust year.

Georgia. Wm. F. Turner (June 15): Great numbers of the periodical cicada heard singing in the extreme southern part of Pike County. (These belong to Brood XX of the 13-year race, a small brood recorded from northern Georgia. J.A.H.)

Kansas. R. H. Deamer (May 15 & 28): A few specimens of the form cassinii Fish were observed at Leavenworth on May 15, and at Lawrence on May 28. (These are possibly retarded specimens of Brood XIX, but this brood has never been recorded from Leavenworth or Lawrence. J.A.H.)

FALL CANCKER WORM (Alsophila pometaria Harr.)

Massachusetts, Connecticut, Rhode Island, and New York. J. V. Schaffner, Jr. (June): Several reports have been received on the abundance of this pest in eastern Massachusetts. The earliest spraying operations carried on by cities and towns against the gipsy moth and elm leaf beetle undoubtedly have prevented much defoliation by A. pometaria. In the Blue Hill section of Milton, Mass., from 50 to 100 acres of woodland and many shade trees of elm, oak, and ash were reported to be from 50 to 100 percent defoliated on June 6. C. E. Hood reported on June 14 that many shade, woodland, and apple trees in the vicinity of New Haven and North Branford, Conn., are quite badly infested. On May 31 many shade trees and some woodland areas in the vicinity of Cranston, R. I., were from 25 to 100 percent defoliated. On June 4 to 6 severe infestations were noted on shade trees, particularly elm, in apple orchards, oak woodlands, and in wastelands growing up with wild cherry and other deciduous growths. Woodland stripping is quite prominent in many localities as far north as Bedford Township. Many large elm shade trees are completely defoliated. In the northern part of this area some of the stripping in the oak woodland is due in part to the abundance of Phigalia titea Cram., Erannis tiliaria Harr., and other native species.

Connecticut. W. E. Britton (June 23): This insect has been unusually abundant and has defoliated unsprayed orchard and woodland trees in many small areas in Fairfield, Middlesex, and New Haven Counties.

SPRING CANCKER WORM (Paleacrita vernata Peck)

New York. H. C. Hallock (June 2): In the vicinity of Locust Valley, Brookville, and Old Westbury, apple trees are 100 percent defoliated. At Hempstead Lake State Park (south of Hempstead) oaks are about 30 percent defoliated, and the annoyance caused by the worms has greatly reduced the number of people using the park.

Ohio. E. W. Mendenhall (June 6): The spring canker worm is quite bad here and there in Ohio this spring, attacking both apple and elm trees.

Michigan. E. I. McDaniel (June 14): Cankerworms were, if anything, more destructive than usual. The fall cankerworm (*A. pometaria*) was the predominating species, and their attack was confined largely to elms.

Iowa. C. J. Drake (June 25): Canker worms (probably two or three species) defoliated many trees in the southern part of Iowa this spring. Considerable injury was done in an area about 40 to 50 miles long and several miles wide, extending east and west, south of Indianola.

Nebraska. M. H. Swenk (June 20): Elm trees in Frontier County were reported infested with the spring cankerworm on May 19.

#### FOREST TENT CATERPILLAR (*Malacosoma disstria* Ebn.)

Maine and New Hampshire. J. V. Schaffner, Jr. (June 20 and 22): Several areas of 2 or 3 acres up to 200 acres of woodland ranged from 25 to 100 percent defoliated in the towns of Parsonsfield and Limerick, Maine. Scattered infestations in Washington County, Maine, with defoliation estimated in some places up to 25 percent, have been reported. This species was abundant on sugar maple shade trees in Walpole, N. H., on May 27. C. W. Collins noted on June 21 that larvae were generally common in woodland wherever stops were made between Durham, N. H., and all towns surrounding Lake Winnepesaukee. At Farmington, N. H., some 30 ash and maple shade trees were from 50 to 100 percent defoliated.

Maine. H. B. Peirson (June 20): Very heavy outbreaks have been reported at Woodville, Mariaville, Limerick, Macwahoc, Pattahumpus, Augusta, and Kezar Falls. The caterpillars feed on white and gray birch, trembling aspen, largetooth aspen, sugar maple, oak, and some on beech.

New Hampshire and Connecticut. E. P. Felt (June 22): Caterpillars were received from Wenox, Mass. They were observed in small numbers in the vicinity of Stamford, Conn., and have been reported as abundant in restricted areas in southern New Hampshire.

Vermont. H. L. Bailey (June 26): The forest tent caterpillar was moderately abundant in Windsor County on June 11. Caterpillars are noticeable, but not abundant, throughout most of the State, indicating a tendency toward increase.

Connecticut. M. P. Zappe (June 5): Larvae are very abundant on maple, oak, and other deciduous trees in Woodland Park, Meriden.

Minnesota. A. G. Ruggles (June 26): Reported from Saint Louis County around Ely.

#### A TENT CATERPILLAR (*Molacosoma constricta* Stretch)

California. D. F. Barnes (June 1): Scattered oak trees at the top of Pacheco Pass and for about 10 miles west of the summit, along the Los Banos-Gilroy road, were observed to be from 10 to 90 percent defoliated by the tent caterpillar (*M. constricta*) on April 27 and 28. Larvae were collected and reared. The adults were identified by H. H. Kieffer. No defoliation in the vicinity of Fresno has been observed by the writer during the last four seasons.



BROWN-TAIL MOTH (Nygmia phaeorrhoea Don.)

Maine. H. B. Peirson (June 10): A local infestation was found at South Harpswell June 10 in spite of the severe winter.

GIPSY MOTH (Stilpnotia salicis L.)

New England. J. V. Schaffner, Jr. (June 20): All reports indicate that infestations are generally light all through the infested area. In several places very few larvae could be found where rather severe infestations existed a year ago.

BRUCE'S SPANWORM (Rachela bruceata Hulst.)

Vermont. H. L. Bailey (June 26): Larvae were again abundant in certain northern areas of Vermont on sugar maple and beech. The infestation was less heavy than that of last year, when many maple sugar orchards in Franklin, Lamoille, Orleans, and Caledonia Counties were nearly defoliated. In some cases the under growth of young maples has apparently been killed by repeated attacks of these inch-worms. Feeding was completed about the first week in June and larvae went into the leaf mold and spun cocoons similar to those of Alsophila pometaria. (Det. by W. T. Forbes). Many adults were appearing November 1, 1933.

A LEAF MINER (Prionomerus calceatus Say)

New York. E. P. Felt (June 22): The sassafras and tulip leaf miner (P. calceatus) is infesting sassafras at Westbury, L. I., and is also somewhat injurious to tulip.

BLACK VINE WEEVIL (Brachyrhinus sulcatus Fab.)

Massachusetts. J. V. Schaffner, Jr. (June 20): A nurseryman from Lynnfield brought in specimens on June 20 and reported injury to Japanese yew.

A SAWFLY (Profenusa collaris MacG.)

Massachusetts. E. P. Felt (June 22): The cherry and hawthorn sawfly leaf-miner (P. collaris) was reported as abundant on hawthorn foliage at North Andover.

OYSTER-SHELL SCALE (Lepidosaphes ulmi L.)

New York. R. E. Horsey (June 25): New scale was past moving and set on June 9 at Rochester.

Indiana. J. J. Davis (June 22): Oyster-shell scale was very abundant and destructive to ash at North Manchester on June 18.

Michigan. E. I. McDaniel (June 14): Infested lilac is common throughout the State

ASHSAWFLIES (Tomostethus spp.)

Maine. H. B. Peirson (June 14): The ash sawfly (T. bardus Say) was defoliating brown ash at Augusta on June 14.

Pennsylvania, E. P. Felt. (June 22): Larvae of an ash sawfly, probably T. multicinctus Roh., were reported as numerous on ash in the Philadelphia area.

CARPENTER WORM (Prionoxystus robiniae Peck.)

Indiana. J. J. Davis (June 22): Adults were received from Walkerton on June 1. At the time the moths were laying eggs.

North Dakota. J. A. Munro (June 14): Most of the green ash at Fargo, Cass County, is badly infested and the worm is extending its attack to American elm and maples.

APPLE TWIG BORER (Amphicerus licaudatus Say).

North Dakota. J. A. Munro (June 14): The apple twig borer is reported to be moderately abundant on green ash at Van Hook, in Mountrail County.

ARIZONA ASH TINGITID (Leptopypha minor McAtee.)

California. C. S. Morley. Kern Co. Calif. Mo. Bull. (June 1): The Arizona ash tingitid has seriously injured many ash trees.

A LEAF GALL (Contarinia canadensis Felt.)

New York. E. P. Felt (June 22): Ash leaf gall (C. canadensis) was reported as being very prevalent on ash leaves in the vicinity of Albany.

Maryland. E. P. Felt (June 22): The same gall was reported as being numerous in the vicinity of Maryland State Forest Nursery.

BIRCH

BIRCH CASE BEETLE (Coleophora salmani Heinr.)

Maine. A. M. Gillespie. (June 22): Very heavy outbreak at Bar Harbor reported on June 22. Counts of 1,355 larvae from four sites show a winter mortality of 25 percent for 1933-34. Winter mortality for 1932-33 was 8 percent.

BRONZE BIRCH BORER (Agrilus anxius Gory)

Iowa. C. J. Drake (June 25): The bronze headed birch borer is doing considerable damage to birch trees at Fort Dodge, Nevada, Boone, and Jefferson.

IMPORTED BIRCH LEAF MINER (Fenusa pumila Klug.)

Maine. H. D. Peirson (June 22): Imported birch leaf miner generally abundant in the State on June 22.

BOXELDER

BOXELDER PSYLLID (Psyllia negundinis Mally)

Utah. G. F. Knowlton (May 14): Psyllids are very abundant on boxelder leaves in Ogden Canyon.

ELMELM LEAF BEETLE (Galerucella xanthomelaena Schr.)

Vermont. H. L. Bailey (June 26): The elm leaf beetle was reported as moderately abundant in Brattleboro on June 21.

Michigan. R. Hutson (June 13): Eggs are present on the leaves of elm trees at Monroe.

Idaho. C. Wakeland (June 19): The elm leaf beetle has continued to spread until it is found generally throughout the Boise and Payette Valleys in southern Idaho. It is completely defoliating trees which are unsprayed. Much effort is being put forth by cities and individuals to protect their trees but where spraying has not been done many elms will probably be killed.

ELM LEAF MINER (Kaliosysphinga ulmi Sund.)

Maine. H. B. Peirson (June 9): Elm leaf miner (K. ulmi) was observed at Hallowell and Waldoboro on June 9. Heavy infestation on Camperdown and English elms.

Massachusetts. A. I. Bourne (June 25): The elm leaf sawfly is at least normally abundant. Some Camperdown elms show even more severe injury than usual.

ELM CASE BEARER (Coleophora limosipennella Dup.)

Massachusetts. A. I. Bourne (June 25): Several complaints have been received of unusual abundance of the elm case bearer.

MOURNING-CLOAK BUTTERFLY (Hamadryas antiopa L.)

Connecticut. W. E. Britton (June 23): Infestations at Hadlyme, Hamden, and Hartford as gipsy moth, and the residents were somewhat alarmed.

WOOLLY APPLE APHID (Eriosoma lanigera Hausm.)

Maine. H. B. Peirson (June 19): Apple and elm woolly aphid observed at Dixfield June 19. Very heavy injury on elms.

New Hampshire. L. C. Glover (June 25): Reported several times as doing injury to elm.

Vermont. H. L. Bailey (June 26): The woolly elm aphid is more abundant than usual on elm foliage. Many reports were received of "rosettes" on ornamental elms, especially in Montpelier and vicinity during the first half of June.

Connecticut. E. P. Felt (June 22): A woolly elm leaf aphid, probably Schizoneura lanigera, was abundant on certain elms in Lakeville.

Indiana. J. J. Davis (June 22): Elm rosette and leaf curl, resulting from woolly aphid attacks, have been reported from numerous localities in the State.

Maine. H. B. Peirson (June 9): Woolly elm aphid noted at Crouseville and Augusta on June 9.



WOOLLY ELM APHID (Eriosoma americana Riley)

Nebraska. M. H. Swenk. (June 20): The woolly elm leaf aphid (Schizoneura americana) was reported working on elm trees in Cheyenne County on June 11.

EUROPEAN ELM SCALE (Gossyparia spuria Mod.)

Indiana. J. J. Davis (June 22): European elm scale abundant on elms at Garfield May 25.

Illinois. W. P. Flint (June 23): The European elm scale is decidedly on the increase and is causing damage at many widely scattered points in central and north central Illinois.

Michigan. E. I. McDaniel (June 14): European elm scale (G. ulmi) has been reported from Niles, Coopersville, Battle Creek, Conklin, and Royal Oak. Young were beginning to emerge about June 7 in the vicinity of East Lansing.

Iowa. C. J. Drake (June 26): The European elm scale is unusually abundant in central Iowa. Considerable injury to young trees has been noted at Ames and Des Moines.

Nebraska. M. H. Swenk (June 20): The European elm scale was reported working on elm trees in Dodge County on June 1.

Idaho. C. Wakeland (June 19): The European elm scale was found in the vicinity of Moscow for the first time. It is generally distributed, probably because of the unusually mild winter of last year.

ELDERA NOCTUID (Luceria tranquilla viridula Grote)

Utah. G. F. Knowlton (May 23): Caterpillars of this insect were defoliating Golden American elder at Farmington. Similar damage has been noted at Logan.

FIR

Maine. J. V. Schaffner, Jr. (June 20): R. C. Brown reports that several areas of fir at Indiantown are heavily infested.

AN APHID (Dreyfusia piceae Ratz.)

Maine. H. D. Peirson (June 7): Infestation of the balsam woolly aphid observed at Dalton on June 7; many trees dead.

R. W. Nash, Winter Harbor, Gouldsboro (May 18): Much fir dying.

AN APHID (Mindarus abietinus Koch)

Maine. H. D. Peirson (June 10): The balsam aphid (M. abietinus) was abundant on ornamental trees at Augusta on June 10.

HEMLOCKPUTNAM'S SCALE (Aspidiotus ancylus Putn.)

New York. E. P. Felt (June 22): A scale insect, provisionally identified as A. ancylus occurred in abundance on a hemlock hedge at Scarborough, the abundance of the insects suggesting the early conditions of San Jose scale infestation on fruit trees.

JUNIPER AND CEDARA SCOLYTID (Phloeosinus so.)

Mississippi. J. M. Langston (June 22): Virginia blue juniper twigs injured by beetles belonging to the genus Phloeosinus were received from Dentonia, Yazoo County, on June 21. The sender states: "It seems at present that the entire foliage is going to be stripped from the shrub."

LARCHLARCH CASE BEARER (Coleophora laricella Hbn.)

Maine. H. B. Peirson (June 1): Larch case bearer generally heavy over the State.

R. C. Brown (June 20): Thousands of acres of larch, all through the eastern part of the State, show the effects of a severe infestation of this case bearer.

MAPLEMAPLE NEPTICULA (Nepticula sericopeza Zell.)

Connecticut and New York. E. P. Felt (June 22): The Norway maple leaf stem miner was received from Westbury, L. I., accompanied by the statement that it was causing a considerable leaf-fall on trees not in fruit. This insect is moderately abundant in the Stamford, Conn., area on fruiting Norway maples.

MAPLE LEAF STEM BORER (Priophorus acericaulis MacG.)

Massachusetts. A. I. Bourne (June 25): In early June we received many complaints of the work of the maple leaf stem borer. Evidently it is more abundant this year than usual.

New York. E. P. Felt (June 22); The maple leaf stem borer has infested a considerable proportion of the lower leaves of Norway maple at Davenport Neck, New Rochelle, causing a heavy leaf fall.

NORWAY MAPLE APHID (Periphyllus lyropictus Kess.)

Massachusetts. J. V. Schaffner, Jr. (June 20): A heavy infestation on bronze leaf Norway maple in Plymouth was reported on May 23.

COTTONY MAPLE SCALE (Pulvinaria vitis L.)

Tennessee. G. M. Bentley (June): The cottony maple scale is abundant in the upper counties of western Tennessee.

JAPANESE MAPLE SCALE (Leucaspis japonica Oкл.)

Connecticut. W. E. Britton (June 23): The trunks of Japanese maples at New Haven are rather severely infested.

MAPLE BLADDER GALL (Phyllocoptes quadripes Shim.)

Connecticut. W. E. Britton (June 23): Maple bladder galls are abundant as usual on silver maples at Branford, Kent, Madison, Niantic, and Waterbury.

E. P. Felt (June 22): Maple bladder galls were received from Danbury, where they occurred in small numbers.

OAKA PHYLLOXERA (Phylloxera sp.)

California. H. T. Ryan (June 20): An insect taken on white oak (Quercus lobata) has been determined as Phylloxera sp., with the comment: "Evidently new; at least new to the State." Because of the resistance of this insect to insecticide treatments the host has since been dug up and destroyed.

OAK TWIG PRUNER (Hypermallus villosus Fab.)

Massachusetts. A. I. Dourne (June 25): Several complaints have been received of the work of the oak twig pruner from various sections in the State.

Nebraska. M. H. Swenk (June 20): Specimens of the maple and oak twig pruner and its work on poplars were sent in from Cherry County on June 14.

PINEEUROPEAN PINE SHOOT MOTH (Rhyacionia buoliana Schiff.)

Connecticut. R. D. Friend (June 23): Pupae are much less abundant throughout the State on red pine than last year.

PINE TUBE MOTH (Eulia pinatubana Kearf.)

Maine. A. E. Drower (May 15-20): The pine tube moth was observed at Bar Harbor on May 15-20. Moths were flying.

PINE LEAF MINER (Paralechia pinifoliella Chamb.)

Massachusetts. J. V. Schaffner, Jr. (June 20): At least one acre of pitch pine next to the highway in a large woodland tract at Boylston was severely browned by this needle miner. A sample collection made on May 21 produced hundreds of moths and hymenopterous parasites during the first 3 weeks in June.

PINE BARK APHID (Pineus strobi Htg.)

Michigan. E. I. McDaniel (June 14): The pine bark aphid (Adelges pinicorticis) is common on white pines throughout the State.



PINE NEEDLE SCALE (Chionaspis pinifoliae Fitch)

New York. R. E. Horsey (June 25): The pine needle scale was reported moving during the first week in month at Rochester.

Nebraska. M. H. Swenk (June 20): A sprucetree was reported to be infested with pine leaf scale on May 26 by a Dundy County correspondent.

Utah. G. F. Knowlton (May 24): Pine leaf scales are damaging ornamental spruce trees at Fairview.

SCOTCH PINE LECANIUM (Toumeyella numismaticum P. and McD.)

Michigan. E. I. McDaniel (June 14): Specimens of the Scotch pine lecanium have been received from Rose City, where it is reported as infesting pines in sufficient numbers to be a decided detriment to the trees.

POPLAR

TULIP TREE SCALE (Toumeyella liriodendri Gmel.)

Mississippi. J. M. Langston (June 22): A heavy infestation found on tulip poplar twigs was received from a correspondent at McComb, Pike County, on May 26.

SPRUCE

SPRUCE GALL APHID (Chermes abietis L.)

Maine. H. B. Peirson (June 2): The spruce gall aphid (Adelges abietis) was observed at Monson on June 2. It was very severe in this area on ornamental spruces.

SPRUCE BUD SCALE (Physokermes piceae Schr.)

Michigan. E. I. McDaniel (June 14): The presence of spruce bud scale on Norway spruce on the campus of Michigan State College was first evident on May 28 and by June 2 the trees were coated with honeydew and were fairly alive with bees swarming over them feeding on the honeydew.

SPRUCE MITE (Paratetranychus uninguis Jac.)

Connecticut. E. P. Felt (June 22): The spruce mite is locally very abundant on spruce, badly infested twigs with numerous young having been received from Danbury.

WILLOW

A CERCOPID (Aphrophora salicis DeG.)

Massachusetts. J. V. Schaffner, Jr. (June 20): This spittle insect was noted in abundance on willow trees in Boston. They were very abundant on willow in the Arnold Arboretum on June 17.

WILLOW LEAF BEETLE (Plagiodera versicolora Laich.)

New York and New England. E. P. Felt (June 22): The imported willow leaf beetle is becoming generally abundant on willows in southeastern New York and southwestern New England, with indications that there will be considerable injury

as the season advances.

ELM SAWFLY (Cimbex americana Leach)

Minnesota. A. G. Ruggles (June 26): C. americana is laying eggs on willows in Wright County.

INSECTS AFFECTING GREENHOUSE  
AND ORNAMENTAL PLANTS

CHRISTMAS SUNFLOWER

MEXICAN MEALYBUG (Phenacoccus gossypii Towns. & Ckll.)

Florida. E. W. Berger and G. B. Merrill (June 22): A heavy infestation of the cotton mealybug on Christmas sunflower (Tithonia diversifolia) in a yard at Gainesville has been reported. ✓

CRAPEMYRTLE

A FLEA BEETLE (Haltica vacciniae Blatch.)

Alabama. H. P. Loding (June 5): Flea beetles are very abundant and are attacking many plants, particularly crapemyrtle, large bushes being completely skeletonized in 24 hours. By sweeping 36 plants 373 beetles were obtained.

GLADIOLI

GLADIOLUS THRIPS (Taeniothrips gladioli M. & S.)

Wisconsin. E. L. Chambers (June 25): Early planted gladioli are already showing injury from gladiolus thrips in the southern section of the State and many requests are being received for control measures.

Iowa. C. J. Drake (June 25): The gladiolus thrips is unusually abundant in Story and Polk Counties. It will be necessary for many growers to spray in order to avoid serious injury.

Alabama. J. M. Robinson (June 23): The gladiolus thrips is moderately abundant at Birmingham.

GOLDENGLOW

CARROT BEETLE (Ligyrus gibbosus DeG.)

Michigan. E. I. McDaniel (June 26): The carrot beetle has been reported from Battle Creek as feeding on the roots of various annuals and perennials. As many as 27 beetles have been reported from the roots of one Goldenglow. This beetle seems especially numerous in Michigan this year. We have taken it ever, place we have collected for June bugs.

IRIS

A CURCULIONID (Mononychus vulpeculus Fab.)

Massachusetts. A. I. Bourne (June 25): Professor Whitcomb reports the blue flag weevil (M. vulpeculus) injurious to German iris in gardens at Middlesex, Essex,

and Norfolk Counties.

Michigan. E. I. McDaniel (June 26): Found in iris at East Lansing. It is abundant in wild iris growing along the swamps and in some places does considerable damage to the buds before they open.

#### LILAC

##### LILAC BORER (Podosesia syringae Harr.)

Michigan. E. I. McDaniel (June 14): The lilac borer has destroyed a number of lilacs in Lansing and Grand Rapids. It has also been reported from Monroe and Ann Arbor. It seems particularly destructive on French lilacs.

#### MATRIMONY VINE

##### A GALL MITE (Eriophyes eucricotes Nal.)

Connecticut. E. P. Felt (June 22): The matrimony vine gall (E. eucricotes) is quite numerous in some localities in the Stamford area.

#### REDBUD

##### A LEAF ROLLER (Gelechia cercerisella Cham.)

Kansas. H. R. Bryson (June 26): This leaf roller has caused considerable injury to redbuds at Manhattan. The leaves are folded and skeletonized by the larva giving the tree an unsightly appearance.

#### ROSE

##### ROSE CURCULIO (Rhynchites bicolor Fab.)

North Dakota. J. A. Munro (June 14): The rose curculio is moderately abundant. Reports indicate its general prevalence and injury to roses.

Utah. G. F. Knowlton (May 25): Injury to roses has been reported from several parts of the State.

##### BRISTLY ROSE SLUG (Cladius isomerus Nort.)

New York. R. E. Horsey (June 25): The bristly rose slug is common and is doing serious damage on climbing and other roses at Rochester. Larvae were 1/8 inch long on June 9.

#### SNOWBERRY

##### A SAWFLY (Abia inflata Nort.)

Massachusetts. J. V. Schaffner, Jr. (June 20): On June 13 this species was reported as having stripped the foliage from ornamental snowberry shrubs in Quincy.



SUMAC BEETLE (Elepharida rhois Forst.)

Massachusetts. A. I. Bourne (June 25): Early in June Professor Whitcomb reported that the jumping sumac beetle had been seen on Rhus copallina on the State highway planting in South Sudbury.

UMBRELLA TREE

CATALPA SPHINX (Ceratonia catalpae Adv.)

Maryland. E. N. Cory (June 21): The catalpa sphinx is doing considerable damage to the umbrella tree in Prince Georges County.

WOODBINE

WOODBINE VEIN GALL (Dasyneura parthenocissi Stebb.)

Massachusetts. E. P. Felt (June 22): The woodbine vein gall was unusually abundant, deforming many of the leaves of woodbine in the Boston area.

LEAFHOPPERS (Cicadellidae)

North Dakota. J. A. Munro (June 14): Leafhoppers are very abundant on woodbine in Minot, Devils Lake, Fargo, Bowbells, and Bismarck. The vines are severely injured.

Kansas. H. R. Bryson (June 26): Leafhoppers (Erythroneura sp.) are reported to be injuring the leaves of woodbine at Manhattan and Bern.

I N S E C T S   A T T A C K I N G   M A N   A N D

D O M E S T I C   A N I M A L S

MAN

MOSQUITOES (Culicinae)

Oregon and Washington. H. H. Stage (June 4): Aedes aldrichi Dyar and Knab and A. vexans Meig. emerged from the flooded bottoms of the Columbia and Willamette Rivers the middle of May. They were very numerous in certain areas where control measures were not undertaken. Aedes hexodontus Dyar, A. aboriginis Dyar, and A. fitchii Felt and Young were not so numerous in mountainous areas because of a light snowfall during the past winter. All breeding had ceased by May 12 in the Cascade Mountains of southern Washington and Oregon. Culex tarsalis Coq. and Theobaldia incidens Thom. appeared much more numerous during May than in past seasons.

FLEAS (Ctenacephalides sp.)

Texas. E. W. Laake (June 23): There have been an unusual number of reports of severe infestations of fleas from various sections of Dallas. One case brought to our attention was that of a 4-year old boy who was infested with at least 2,000 fleas on his head. Lesions as a result of flea bites covered approximately half of his scalp and hundreds of bites were also in evidence over his entire body.

SAND FLIES (Culicoides sp.)

Kentucky. W. A. Price (May 24): Punkies have been troublesome in the vicinity of Brandenburg.

## ANTS (Formicidae)

Tennessee. The Commercial Appeal, Memphis. (May 30): A 3-month old child was seriously injured and probably permanently blinded by the severe bites inflicted by Formica trunicola integra Nylander, when left in a crib near a nest of this ant at Bells.

Mississippi. J. M. Langston (June 22): Fire ants (Solenopsis geminata Fab.) have been reported as very abundant in gardens, yards, and houses in almost all sections of the State. Complaints of injury to plants have been received in many instances, while a child in Starkville was severely stung by these ants.

BLACK WIDOW SPIDER (Latrodectus mactans Fab.)

Idaho. C. Wakeland (June 19): Much attention has been attracted to the black widow spider due to the very severe illness of a physician in the Grand View district who was bitten and has been in a state of coma for about 3 weeks. At this time he is reported as recovering. We have had this spider authoritatively reported from Pocatello, Twin Falls, Grand View, Boise, Parma, Fayette, and Lewiston.

Oregon and Washington. H. H. Stage (June 4): A severe epidemic of the black widow spider has been reported from Klamath Falls, Oreg., the last week in May. A correspondent writes, "Apparently millions of eggs have been laid as they are found in all rock gardens, and the young spiders are now hatching (June 1). People are very much aroused here, many rock gardens are being torn out, and thorough spraying of rock walls and gardens is being undertaken. I believe only one person has been bitten, and, while this individual is very sick, the bite was not fatal."

## CATTLE

SCREW WORM (Cochliomyia macellaria Fab.)

Florida. J. R. Watson (June 27): A heavy infestation of the screw worm is reported in Alachua County, the heaviest that has yet occurred in this section, according to the county agent.

HORN FLIES (Haematobia irritans L.)

Texas. E. W. Locke (June 23): Horn flies were very abundant in the vicinity of Dallas during the early part of June but have diminished, now averaging about 50 per animal on unsprayed cows.

CATTLE GRUBS (Hypoderma spp.)

Illinois and Iowa. Recovery Council (May 11): The European cattle grub (H. bovis DeG.) is much less abundant this year than for many years previous. In mature cattle the infestation is especially low, not averaging one grub per animal. This relative scarcity obtains throughout a part of northern Illinois and northeastern Iowa. At Galesburg, Ill., both the American cattle

grub (H. lineatum DeVill.) and the European form are relatively scarce. In the central part of Iowa, where the American form predominates, the herds are almost free from infestation this season.

### HORSE

#### HORSE FLIES (Tabanidae)

Utah. G. F. Knowlton (June 5): Horse flies are seriously annoying livestock in the meadows between Brigham City and Corinne. Tabanus phaenops O. S. is the most abundant.

### POULTRY

#### BILLBUGS (Calendra spp.)

Minnesota. A. G. Ruggles (June 26): C. aequalis Gyll. reported from Marshall, where chickens were being injured.

Iowa. C. J. Drake (June 25): At Des Moines C. aequalis was reported as the cause of the death of a small chicken.

Nebraska. M. H. Swenk (June 20): On June 15, a Clay County correspondent set in specimens of C. robustus Horn which she had found attached to the head and tibiae of chickens.

## HOUSEHOLD AND STORED-PRODUCT INSECTS

#### A DRUG STORE BEETLE (Nicobium castaneum Oliv.)

Washington, D. C. Peter Disset (May 31): The Bureau of Plant Quarantine received on May 21 a block of wood on which was an oil painting, referred to us by Mr. Woytych, Deputy Collector of Customs, City Post Office, Washington, D. C., who, in examining this block for customs purposes, found some living larvae in the wood. W. S. Fisher determined the specimens to be N. castaneum. Mr. Disset does not know from what country the painting came, although the wrapper was marked "Via France."

#### BLACK FIELD CRICKET (Gryllis assimilis Fab.)

Illinois. C. L. Metcalf (June 20): Very unusual numbers of the black field cricket occur in many places in central Illinois. They are invading houses and stores, making themselves a nuisance, and in some cases are reported to be doing damage to dry goods and ready-to-wear articles.

#### DRIED FRUIT BEETLE (Carpophilus hemipterus L.)

California. Perez Simmons and Associates (June 1): This insect is more numerous in the Fresno area than during any spring since and including 1931, when census trapping was begun. The comparative catches are: 1931, 21,800; 1932, 1,800; 1933, 15,000; 1934, 29,600. (Figures by Dwight F. Barnes.)



## NOTES ON HEMIPTERA AND HOMOPTERA COLLECTED IN MINAS GERAIS, BRAZIL, 1932-33

by

E. J. Hambleton

(Determinations made by P. W. Oman)

Pentatomidae:Acrosternum majuscula Dist. was taken from legumes in September 1933.Agroecus griseus Dallas was taken from legumes in June 1933.Danasa subrufescens (Walk.) was taken on legumes in April and May 1933.Dichelops furcatus Fab. was taken on various legumes in March and April 1933.Edessa meditabunda (Fab.) was very common on tomato plants during June and was collected on soybeans on March 14, 1933.Euschistus cornutus Dallas was taken on beans April 25, 1933.Euschistus heros Fab. was common on soybeans during March 1933.Euschistus illotus Stal. was taken on sword beans in April 1933.Mormidea V-luteum Licht was very common in rice fields during April 1933.Piezodorus guildinii (Westw.) was very common on many legumes in March and April. 1932.Proxys albo-punctulatus Pal. Beauv. was taken on rice on April 13, 1933.Solubea ypsilon-griseus Degeer was taken on rice and soybeans on March 14, 1933.Tynacantha cinctipes Stal. was taken on legumes in April 1933.Coreidae:Anasa scorbutica (Fab.) was taken on squash December 6, 1932.Corizus sidae (Fab.) was a serious pest of okra during March and April 1933.Crinocerus sanctus Fab. was reared from soybeans during May 1933.Cydarrus trispinosus Degeer was taken on beans and mandioca during April and May 1933.Discogaster dentipes Stal. was taken April 20, 1933, from soybeans and reared.Harmostes prolixus Stal. was abundant on mandioca and soybeans during April 1933.Harmostes serratus (Fab.) was taken from a legume on March 21, 1933.Hymeniphera clavipes Fab. was taken on squash and anonaceae in March and September 1932.

Hypselonotus striatulus dimidiatus Hahn. was taken on cotton for the first time on April 13, 1933.

Hypselonotus interruptus lineaticollis Stal. was taken on legumes and citrus on April 3, 1933.

Leptocorisa filiformis (Fab.) was occasionally taken on mandioca and various legumes in April, May, and June 1933.

Leptoglossus stigma (Hbst.) was found feeding on citrus fruit June 15, 1933.

Megalotomus rufipes Westw. was abundant on field beans in April 1933.

#### Lygaeidae:

Geocoris pallipes Stal. was common on rice and on cowpeas and other legumes during April and May 1933.

Nysius basalis Dallas was very common on soybeans March 14, 1933.

Oncopeltus unifasciatus (Hahn) was found on oleander in March 1932.

#### Pyrrhocoridae:

Dysdercus fulvo-niger DeG. was very common on and injurious to cotton during May and June 1933.

#### Reduviidae:

Zelus armillatus Lep. & Sev. was found feeding on Chrysomelidae on corn plants on October 27, 1932.

#### Anthocoridae:

Orius insidiosus Say was very common on many plants, especially peanuts, on March 26, 1933.

#### Miridae: (Det. by H. G. Barber)

Collaria oleosa (Dist.) was taken on soybeans and croton during March and April 1933.

Creontiades rubrinervis (Stal.) was taken on peanut plants and soybeans in March and April 1933.

Dolichomiris tibialis Reut. was taken on peanut plants in March 1933.

Garganus gracilentus Stal. was taken on peanut vines in March and April 1933 and were also common on legumes.

Hyaliodes quadristriatus Reut. was taken on soybeans on March 14, 1933.

Paracalocoris bimaculatus Fab. was rare on soybeans on April 10, 1933.

Polymerus cuneatus Dist. was taken on various legumes April 2, 1933.

Pycnoderes degeneratus Reut. was very abundant on squash and pumpkin in February 1933.

Cicadellidae:

Agalliana sticticollis Stal. was taken on potato foliage on June 2, 1933.

Cicadella leucomeles Walk. was taken on bean foliage on May 16, 1933.

Cicadella mollicella Fowl. was taken on bean foliage on May 16, 1933.

Cicadella quinquemaculata Germ. was taken on May 16, 1933, and was observed feeding on young sugarcane plants in June.

Cicadella tinctorula Osb. was abundant on citrus during May and June 1933.

Cicadella xanthophis Berg. was taken on May 16, 1933, and was seen on potato foliage in June.

Cicadula maidis DeL. was taken on bean foliage on May 16, 1933.

Deltocephalus flavicosta Stal. was taken on bean foliage on May 16, 1933.

Diedrocephala variegata Fab. was common on peanuts, beans, and potatoes during March and April 1933.

Eutettix dentatus Osb. was taken on May 23, 1933, and was observed on potato foliage in June.

Osbornellus mexicanus Osb. was taken on bean foliage on May 11, 1933.

Parallaxis vacillans McA. was common on bean foliage during May; taken June 2, 1933.

Platymetopius marginelineatus Stal. was taken on field beans May 23, 1933.

Scaphoidula cingulata Osb. was taken on bean foliage on May 16, 1933.

Thamnotettix colonus (Uhl.) was taken on bean foliage on May 16, 1933.

Thamnotettix hyalinipennis Stal. was taken on bean foliage on May 16, 1933.

Xerophloea viridis (Fab.) was taken on bean foliage on May 16, 1933.

Cicadidae:

Fidicina drewseni Stal. was taken on March 8, 1933; observed on Cassia sp. in July.

Fulgoridae:

Cyphonia trifida Fabr. was taken on soybeans and other legumes during March and April 1933.

Peregrinus maidis (Ashm.) was taken on potato foliage on June 2, 1933.

Sogata furcifera Horv. was taken on potato foliage on June 2, 1933.



Membracidae:

Aconophora ferruginea Fowl. was taken on peanut foliage April 20, 1933.

Bolbonata pictipennis Fairm. was taken on mandioca, Cassia sp., and citrus in March and December 1933.

Campylenchia nutans Germ. was taken on Cassia sp. April 7, 1933.

Ceresa vitulus (Fab.) was taken on mango foliage April 2, 1933.

Enchophyllum malaleucum Walk. was taken on plum and Cassia sp., a general feeder.

Stictopelta acutula Fairm. was taken on many legumes during March and April 1933.

## INSECT CONDITIONS IN EGYPT MAY 22, 1934

By Arthur H. Rosenfeld,

Botanical and Plant Breeding Section, Ministry of Agriculture,  
El Giza, Egypt

Aphis gossypii Glov. has been reported as lightly attacking ratoon and newly cultivated cotton plants on field edges.

Entomologist Muhammed Kamel reports that the woolly apple aphid (Eriosoma lanigerum Hausn.) is the most serious apple pest in Upper Egypt.

Lecanium persicae Fab. was found on grapevines in Shebin-el-Kom and on mulberry at Marg, the only two records for Egypt, according to Dr. H. Priesner.

The mealy plum aphid (Hyalopterus arundinis Fab.) was reported to be seriously injuring peaches in various localities in April.

Dr. H. Priesner reports mealy bugs Pseudococcus brevipes Cock. feeding on roots of Phoenix palm at Koubbeh Palace, Cairo. (Det. by E. E. Green)

The potato tuber moth, or tobacco split worm (Gnorimoschema operculella Zell.), is seriously infesting about 2,000 acres, or over one fourth of the entire Egyptian potato area, the summer crop grown in the Delta being invariably badly attacked. It is also reported on Solanums in Egypt.

Chionaspis euonymi Const. was intercepted by the quarantine inspection service on mistletoe, an entirely new record.

Some thrips (Thysanoptera) attack has been noted in propagation fields of cotton, about 3 percent at Karakis Farm and 5 percent at Azab.

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